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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,368	09/21/2006	Thomas Friedlaender	30071/41842	9060

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EXAMINER	
TISCHLER, FRANCES	
ART UNIT	PAPER NUMBER
1765	

NOTIFICATION DATE	DELIVERY MODE
01/14/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/575,368	FRIEDLAENDER ET AL.	
	Examiner	Art Unit	
	FRANCES TISCHLER	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-17 and 21* is/are pending in the application.

4a) Of the above claim(s) *18-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-17 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/20/10 has been entered.

Status of the Claims

Receipt is acknowledged of the Applicant's response filed on 9/20/10. Claim 1 has been amended. Claims 4 and 5 have been cancelled. Claims 18 – 20 are withdrawn. Claims 1 – 3, 6 – 17 and 21 are now pending.

Any outstanding objections and rejections, except for those maintained below, are deemed withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

Claims 1, 12 – 14 and 16 are objected to because of the following informalities: It is improper to refer to figure numbers in the claims as they are not needed to describe the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation “plastic containers”, and the claim also recites “including PET bottles” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

Claim1 – 3, 6 - 17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by FINE et al (US 5,688,693).

The rejection is maintained as per reasons of record as discussed in the previous office action dated 5/18/10.

Regarding claim 1: FINE discloses (abstract, figures, 1:14 – 25, 2:5 – 12, 6:24 – end, claims 1 – 12) a method for reprocessing used plastic PET bottles and containers comprising the analysis and decontamination of the plastic.

The analysis is done several times and different decontamination processes are performed each time depending on the analysis results and degree of contamination. Specifically, FINE injects air in the waste bottles to remove contaminants therein at a rate that depends on the size and degree of contamination of the bottle. FINE shreds the plastic bottles at elevated temperatures and separates gross contaminants. FINE employs sniffing apparatus and optical scanners and separates accordingly, thus removing unwanted/contaminated material. FINE washes at elevated temperatures and removes vapor contaminants, wherein each of the above decontamination process is performed as a result of an analysis of the degree of contamination which determines which process to use.

For example, FINE's process of separating the gross contaminants from the heated shredding process is a decontamination process parameter that leaves the plastic in a cleaner state and said decontamination process is a result of analyzing the

content for the degree of contamination and deciding that the waste needs to be separated.

Similarly, washing the separated material at elevated temperatures is a decontamination process wherein the decision to wash them is an analyzing step based on the degree of contamination which is determined at this point to be lower than in the previous step and therefore washing at a certain temperature is chosen as the decontamination process parameter. Said temperature is chosen to be a temperature that will not cause emission of vapors derived from the plastic itself (3:8 – 19, 7:1 - 34) but high enough to assist in the emission of volatiles of contaminates from the flakes of the waste material (6:58 – 62). Since the washing at elevated temperatures is a process parameter chosen based on the analysis of the degree of contamination and of the make-up of the plastic at this point in the process, it reads on the Applicant's process temperature adapted to the degree of contamination which is determined as a decontamination process parameter.

FINE also discloses a step of analyzing the size of the containers being inspected which determines the rate in which air is injected into said containers (4:10 – 39), wherein the injection of air is a decontamination process that displaces contents from the containers such as volatiles of any products such as beverages which had been in the container (3:61 - 67, 4:1 - 10). The rate (amount of air per unit time) in which air is injected reads on Applicant's process time. The size of the container and the amount of volatiles within said container reads on analyzing the degree of contamination in order to adapt the desired process time/rate.

Regarding claims 2, 3, 6 – 17 and 21: The decontamination process parameters are a function of the degree of contamination and are combined into contaminant groups, as claimed by Applicant, since FINE discloses to first separate the gross contaminants from the waste which is performed by shredding said waste. The shredded plastic is then tested for further contamination of a lesser degree (since the grossest contaminants have been separated after said shredding). This is accomplished with sniffing apparatus or optical scanner at elevated temperatures and the plastic and contaminants are sorted. The plastic is decontaminated by washing and tested again, this time for a third type and amount of contaminants, mostly vapors. Badly contaminated material is removed from the recycled material (2:5 – 12, 5:18 – 24 and 63 – 67, 6:1 - 4). A vacuum pump is used to collect volatile contaminants (4:22 – 27), reading on the concentration process parameter of the present claim. A microprocessor controller is provided for controlling the operation of air injector, evacuator sample, residue analyzer, reject mechanism and fan. For instance, the reject mechanism receives a signal from the microprocessor when to divert a contaminated bottle (4:40 – 67, 5:1 – 24), reading on Applicant's use of threshold value analysis and predetermined values to determine how to proceed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Claims 1 – 3, 6 - 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over KRIEG et al (IS 6,509,537) in view of FINE et al (US 5,688,693).

The rejection is maintained as per reasons of record as discussed in the previous office action dated 5/18/10.

FINE's disclosure is discussed above and is incorporated herein by reference.

KRIEG discloses (abstract, figures, 1:40 -62, 2:33 – 54, 4:7 – 53, claim 1) a method for detecting and evaluating contaminants in waste plastic bottles such as PET, with laser beams, analyzing, classifying and sorting said contaminants into different groups, as claimed in the present application. Detection of contamination is done through programmed logic, calculated calibration vectors and comparison with reference data stored in data memory, reading on Applicant's data analysis and comparison with predetermined data. The concentration of the contaminants is detected through spectral analysis, reading on Applicant's concentration as a process parameter. The process is done in real time, reading on Applicant's time as a process parameter.

KRIEG analyzes and determines the degree of contamination in waste plastic bottles but **fails** to teach a decontamination treatment.

However, it would have been obvious to one of ordinary skill in the art to have decontaminated KRIEG's contaminated waste bottles in the manner disclosed by FINE since both inventions disclose similar methods of detecting and separating contaminants from waste plastic PET bottles for the same stated purpose of being able to reuse the waste plastic material, and one of ordinary skill in the art would have known that if one goes though a process of identifying contaminants in plastic so that it can be

re-used, decontamination should be performed so that it can be reused. For the above reasons, it would also have been obvious to one of ordinary skill in the art to have specifically used FINE's process temperature as a decontamination process parameter in KRIEG's process as part of a decontamination process, or to have used FINE's air injection rate as a process time parameter in order to decontaminate the decontaminants that have been evaluated for the degree of contamination so that the waste plastic can be re-used.

References Made of Record

The following additional references from the Examiner's search are made of record: US 6,533,124 (TACITO et al) discloses a method of analyzing the degree of contamination in plastic bottles and a method of selecting a temperature to heat and thus decontaminate said plastic. The process and apparatus contain programmable logic controllers which signal, divert or isolate the plastics which contain acceptable threshold of contaminants from those that exceed preselected contamination levels.

Response to Arguments

Applicant's arguments filed 9/20/10 have been fully considered but they are not persuasive.

Applicant submits that Fine teaches a system of testing material for contamination in an inline process wherein the processes are predetermined.

Applicant's argument is not convincing: each of Fine's decontamination process is based on the analysis of the degree of contamination, as presently claimed. For instance, gross contaminants are separated before washing at elevated temperature is performed. Therefore, an analysis is made wherein it is decided that the degree of contamination is too high to conduct washing prior to said separation process. Similarly, the rate at which air is injected into the bottles to decontaminate the residual volatiles within the bottle is determined based on the amount of said volatiles present.

Applicant submits that Fine merely separates contaminated material from cleaner material.

Applicant's argument is not convincing: Fine both separates and decontaminates the material. Separation is in itself a decontamination process since gross contaminants are removed and the plastic is left cleaner than before. Moreover, the rate of blowing air to remove volatiles is a decontamination process. Shredding the plastic which heats the particles thus removing volatiles is a decontamination step. Washing the plastic at selected temperatures is a decontamination step.

Applicant submits that there is a difference between Fine's process and the instant process parameters since the latter is associated with process steps such as time and temperature; that Fine does not change the process parameters based on the level of contamination.

Applicant's argument is not convincing: Fine's process contain steps of temperature such as washing the waste plastic at various temperatures and contains steps of time wherein the rate of blowing air is adjusted according to the bottle sizes. Fine changes the process parameters depending on the level of contamination, such as (1) the rate in which air is injected depending on the size of the plastic containers or (2) the temperature of the wash which depend on the material comprising the plastic so that the plastic itself is not volatilized but the type and concentration of volatile contaminants are removed.

Applicant submits that even when interpreting the threshold according to which material is rejected or separated, said threshold is not determined as a function of the degree of contamination found in the analyzing step.

Applicant's argument is not convincing: at each point the material is analyzed (visually or mechanically or spectroscopically, etc.) and the decision is made, depending on the concentration of contamination, whether to separate the highly contaminated material, blow air to remove volatiles, shred, wash, pelletize, etc. For instance, pelletizing does not occur until a certain level of acceptable contamination is achieved. Washing is not done until the level of contamination is decreased to an acceptable value by first injecting air in the containers and shredding the container to remove contaminants so that the washing is more cost-effective and inexpensive (6:14 - 23).

Applicant submits that decontamination is a term which is familiar to one of ordinary skill in the art to mean that the material is cleaned to remove any remaining residues of glue or similar contamination so that the plastic can be reused, and Fine does not decontaminate the waste plastic containers.

Applicant's argument is not convincing: First, removing volatile contaminants from plastic containers is a decontamination process. Secondly, washing at high temperatures is also a decontamination process. Even if, arguendo, decontamination means removing glue from the plastic, which is not and neither is it defined as such in the present specification, Fine's washing process at high temperatures would inherently remove glue from the plastic. Additionally, Fine discloses to choose a temperature that removes contaminants but not high enough to volatilize the plastic itself.

Applicant submits that Krieg analyses the contamination in plastic bottles but does not address decontamination and the office relies on Fine for decontamination, but Fine only teaches separation, and neither reference teaches determining contamination process parameters as a function of the degree of contamination.

Applicant's argument is not convincing: Krieg analyzes, classifies and sorts contaminants and compares them with predetermined data. Fine also analyzes, classifies and sorts contaminants and further decontaminates them, as discussed above. One of ordinary skill in the art would have known to decontaminate Krieg's plastic waste that has been analyzed for contaminants using Fine's decontamination process for the same stated purpose of being able to reuse the waste plastic material.

Fine teaches determining contamination process parameters as a function of the degree of contamination as discussed above.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANCES TISCHLER whose telephone number is (571)270-5458. The examiner can normally be reached on Monday-Friday 8:00AM - 5:30 PM; off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/FT/